

CARDIAC FUNCTION AND HEART FAILURE

PULMONARY VEIN ISOLATION FOR PERSISTENT ATRIAL FIBRILLATION IN PATIENTS WITH SEVERE HEART FAILURE

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Monday, March 15, 2010, 9:30 a.m.-10:30 a.m.

Session Title: Nonpharmacologic Therapies for Heart Failure
Abstract Category: Myocardial Function/Heart Failure--Clinical Nonpharmacological Treatment
Presentation Number: 1126-80

Authors: *Michael R. MacDonald, John McMurray, Tracey Steedman, Morag Shaw, Henry Dargie, Nathaniel Hawkins, Martin Denvir, Sai Bhagra, John Payne, Derek Connelly, Mark Petrie, Golden Jubilee National Hospital, Glasgow, United Kingdom*

Background: We examined the safety and efficacy of pulmonary vein isolation (PVI) compared to optimal medical therapy in patients with severe heart failure (HF) and persistent atrial fibrillation (AF).

Methods: Patients with symptomatic HF, radionuclide LVEF < 35% and persistent AF were randomized to PVI or continued medical therapy. At 3 months patients still in AF had repeat PVI. Cardiovascular magnetic resonance imaging (CMR), B-type natriuretic peptide (BNP) and quality of life were measured at baseline and 6 months. Primary endpoint was change in CMR LVEF from baseline to 6 months.

Results: 41 patients were randomized (Table). PVI was complicated by cardiac tamponade in 2 patients and stroke in 1. By intention to treat, there was no difference in the change in CMR LVEF, BNP or quality of life at 6 months (Table). Patients in sinus rhythm at 6 months had a greater change in CMR LVEF than those in AF (+10.4% v +1.5%, p=0.008).

Conclusions: In patients with severe HF and persistent AF, PVI achieved sinus rhythm in 50% at 6 months, with a major complication rate of 11%. Patients in sinus rhythm at 6 months had a markedly improved LVEF compared with those remaining in AF.

	Intention to treat analysis			AF v sinus rhythm at completion		
	Medical therapy	Ablation	p-value	AF at end	Sinus rhythm at end	p-value
n	19	22		28	10	
Mean age, yr. (SD)	64.4 (8.3)	62.3 (6.7)		63.9 (8.0)	60.7 (6.7)	
Mean AF duration, months (SD)	64 (48)	44 (37)		58 (46)	34.4 (26.3)	
NYHA Class III %	90	91		89	90	
Sinus rhythm, at 6 months, %	0	50		0	100	
Mean baseline CMR LVEF, % (SD)	42.9 (9.4)	36.1 (13.0)		39.2 (10.4)	38.2 (14.7)	
Change in CMR LVEF over 6 mths, % (SD)	2.8 (6.7)	4.5 (11.1)	0.6	1.5 (7.7)	10.4 (10.4)	0.008
Mean baseline BNP, pg/mL (SD)	1807 (1648)	2499 (2104)		2215 (1898)	2220 (2202)	
Change in BNP over 6 mths, pg/mL (SD)	+85 (648)	-196 (1469)	0.45	-21 (708)	-179 (1975)	0.27